Letter of Hon. Isaac I. Stevens, Delegate from Washington territory

PACIFIC RAILROAD.

THE NORTHERN ROUTE,

BY

ISAAC I. STEVENS.

PACIFIC RAILROAD—NORTHERN ROUTE.

LETTER

OF

HON. ISAAC I. STEVENS,

DELEGATE FROM WASHINGTON TERRITORY,

TO THE

Railroad Convention of Washington and Oregon,

CALLED TO MEET AT

VANCOUVER, W. T., MAY 20, 1860.

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LETTER.

WASHINGTON CITY, *April* 3, 1860.

To the President of the Railroad Convention called to meet in Vancouver, W. T., May 20, 1860:

SIR: I propose in this communication to present some general views in regard to the Pacific railroad, and especially to set forth the character of the northern route. It has become now fixed in the public mind, that the national defence, the development of our interior, the availing ourselves of our geographical position in order to control the trade of Asia and the Pacific, require that early and prompt measures should be taken to establish communication by railroads from the Mississippi to the Pacific ocean. The entire aspect of the interior is most rapidly changing. The progress of that interior within the last two years has been greater than its whole previous progress. The successful accomplishment of the overland mail on the southern route is now throwing a population upon that route. Pike's Peak and the silver mines of Nevada, in connection with Utah, are settling large areas in the very heart of the central route. The interior of the northern route, the Walla Walla, Spokane, and Colville country, have already large settlements, which this very year will number many thousand souls. The opening of the navigation of the Missouri to Fort Benton, and of the Columbia and Snake rivers, to Priest's Rapids, and the mouth of the Palouse, in connection with the overland wagon road from Fort Benton to the Walla Walla, have established an easy and practicable communication *via* the northern route. In considering this question I shall not look to the present capacities of the country to support an overland communication, but shall consider what all know will be the condition of the country when these communications are completed, and the roads are put in operation. The building of a Pacific railroad will probably be a work of some years, say ten years. It is not to be doubted that in ten years not only will the population on the Pacific seaboard be trebled or quadrupled, but that there will be a very large population along the line of any route that may be selected for the location of a railroad. It must also be borne in mind that in the case of more than one road, there will be no antagonism between the roads in reference to way travel. Each road will drain a very wide extent of country bordering upon it—a country at least

three hundred miles in width; so that if the intermediate population is simply a pastoral one, the country will, when thus settled, afford a population to the running mile of road greater than the way population of any road in the United States. The Pacific railroad, like all other roads, must have a great dependence on its way travel; and it can hardly be doubted that when a road is completed, the way travel will be very large. It must be borne in mind also, that the extraordinary progress of the interior within the last two years, has been made with no immediate prospect of a Pacific railroad, and with none of the aids of excitement which the starting and commencing of such an enterprise would furnish. If Congress should adopt a system, and if a road or roads should be commenced, it will throw a vast number of laborers on the several routes, and will lead at once to a very much heavier movement of our people upon them. I desire to urge the project of building three roads to the Pacific Ocean. It is manifest that one route is unequal to the public exigencies, and would be unjust to the people of the country. If three roads are built, the government will be under the same necessity of using the three roads as it would be if using but a single road. Over each road it must carry the mails, and must transport troops, supplies, and munitions of war. If but one road is built, to wit, over the central route, the government would still be obliged to provide for the transportation of its mails over the southern route and the northern route, and it would have to transport troops over each of these two routes. Any argument, therefore, based upon the defence of the country, applies with equal force to three as to one route.

With these preliminary observations, I will address myself to the immediate object of this communication. I contend that the northern route is eminently deserving of the encouragement and the support of the government. It is not a fiction, the great vision of Columbus. It is a fact, that if we stand firmly on our geographical position, and show a wise forecast in the measures looking to the development of our country, we will have the means of diverting a large portion of the trade of Asia, and causing it to flow through our own land. The experience of railroads within the last few years has demonstrated the fact that much freight will go on railroads, which could with equal safety and without deterioration go by water, when time can be saved. Much of the cotton for the New England factories passes up the Mississippi, and is transported thence by railroad, in order to gain time and save the interest on money. This course enables the consumer to purchase from day to day, as he wants the article, and he is not required to keep so large supplies on hand as by the former mode of doing the business. Such will

be the case with a vast quantity of Asiatic products. All their costly articles, as silks, the higher priced furniture, spices, furs, &c., instead of making the circuitous voyage around either cape, will be taken by steamer to some one of our Pacific ports, thence overland on the proposed Pacific railroad, and thence to Europe. This will especially be the case with teas, which deteriorate by crossing the tropics, and then being kept long on shipboard. The teas of Russia, which are famed for their superior flavor, are taken overland, through Siberia, at a vast expense, and have been taken in that way for many years. We will then assume, what we think experience has demonstrated, that a Pacific railroad through our borders will have a large way population to sustain it, and will have an immense business in the way of freights in the merchandise of Asia. It will also be the line of movement of population between Asia and Europe, as well as between these continents and our own interior. As the channels of commerce are established, and greater liberality prevails in the management of the affairs of China and the other nations of Asia, it cannot be doubted that this movement of population, which will be hastened all the time the road is being constructed, will become a very great movement by the time the road is in operation.

Looking to all these elements of business—looking to the public necessities, and especially the business which the government will have to transact, we will now consider some of the leading facts touching the geographical position and the natural advantages of the northern route. This route, as has been frequently observed, seems to be pointed out by nature, connecting the great inland sea of Puget Sound with the great basin of the St. Lawrence, which furnish a water line stretching more than half-way across the continent. It has been called the *extreme* northern route; but looking to this great basin of the St. Lawrence, to the extensive country between it and the Rocky Mountains, watered by the Upper Mississippi, the Missouri, the Red River of the North, the Saskatchawan, and their several tributaries, and to the rapidly-developing communities of British Columbia and Vancouver's Island north of our parallel, and of the State of Oregon and the Territory of Washington south of the parallel,—it is a route central to a vast scope of country fitted to be the abode of civilized man, and which is most rapidly rising in importance. Puget Sound, by which designation is included the whole body of waters flowing into the ocean at the Straits de Fuca, is an inland sea equal in extent and length of shore line to the Mediterranean,—infinitely surpasses the Mediterranean in the safety of its navigation, in the number, capacity, and security of its harbors, and, equally with the Mediterranean, hav-

ing obstructions neither from ice nor from dense and dangerous fogs. These waters, in connection with those of the Columbia and the main coast of the Pacific ocean north of the Columbia, and the adjacent country, are a second New England, having all the elements for a great variety of pursuits, and for a large and extensive commerce. On the coast there are cod fisheries equal to the best fisheries on the northeast coast; there is the greatest abundance of salmon and halibut; the whaling business could also be prosecuted with great success from these regions. There is coal on Puget Sound acknowledged now to be the best on the coast, and which will probably be suitable for the purposes of ocean navigation by steamers. But our lumber business admits of a development greater than that of any other portion of the country or of the known world. On the sound alone, we now manufacture one hundred millions a year, and we send more than half of this to foreign ports. We have a large business in spars and piles; we manufacture shingles and laths; and this business must very rapidly increase. We have foundries and ship-yards; we are building steamers and sailing vessels of considerable size, and craft of all descriptions, down to the ordinary sailing or row boat. We have large manufacturing advantages. Our country is a most excellent grazing and agricultural country. With all these various advantages, therefore, west of the Cascade mountains—commercial, manufacturing, agricultural, &c.—we shall have to seek the markets of the Pacific in order to give proper scope to our enterprise and industry. If we consider the interior of Washington and Oregon, we find that experience has demonstrated what has heretofore been confidently predicted, that there is a very great extent not only of fine grazing but fine arable land; and the settlements which have sprung up within the last year in the Walla Walla, the Spokane, and the Colville country, to which allusion has already been made, and the excellent character of the intermediate country, must satisfy all persons that a large population will occupy that region, even before the necessary surveys could be made to locate a Pacific railroad through it.

British Columbia has become a fixed fact. The products of its mines are steadily increasing. Roads and communications are being established, connecting the interior of British Columbia with the coast. Even during the past winter, the yield of gold has been steadily going on.

It has been ascertained by exploration, that there is a very extensive gold region east of the Cascades, in Washington Territory, and exceedingly rich deposits have been actually worked on the Similkameen and are known to exist in other localities. The prospecting operations of the present year will unquestion-

ably develop the capacity of the country in its remunerating gold mines, and the survey of the boundary will also furnish some accurate information in regard to the silver, copper, quicksilver, platinum, lead, and sulphur known to exist along and south of the 49th parallel. The formation of this portion of the territory is similar to that of British Columbia, and the development of their mineral wealth will go on together.

Thus we find on the northwest a great inland sea, unsurpassed on the shores of all the oceans for the purposes of commerce, lending itself to the development both of these United States and of British America. What is the position of this great inland sea to Asia? If we look on the map, we will ascertain that it is the nearest point on our whole Pacific coast to the ports of Asia; but looking to the prevailing winds, it will be seen that it is nearer than San Francisco by the entire distance coastward between San Francisco and Puget Sound; for the prevailing winds are such, that vessels coming from Asia have to make our coast near the entrance of the Straits de Fuca, and proceed thence to San Francisco. Is it objected, or is it urged that San Francisco is the great commercial centre, and must for all time to come be the great commercial *entrepôt* of the Pacific, and that having the start of Puget Sound, no point on its waters can ever rise into importance? What is the history of that Mediterranean to which we have compared it? How many cities on its shores have risen and fallen, and given place to other cities, for century after century! And after the cities of the olden time had fallen into decay, people of enterprise founded a great city in a marsh, and made it the commercial mistress of the world; and that city has now in its turn given place to other cities. What is the experience of our own Atlantic seaboard? Was New York always the great metropolis of the Atlantic? Time was when Newport, in Rhode Island, was the commercial mistress of our thirteen colonies; and New York did not become first until after a struggle of more than a hundred years. But have we simply New York on our Atlantic seaboard? Where are Portland, and Boston, and Philadelphia, and Baltimore, and Norfolk, and Charleston, and Savannah—all commercial centres, and more than half of them larger at this present day than the city of San Francisco? Show me a spot that Nature has pointed out as fitted for the seat of commerce, and I will show you a point where the enterprise of the American people will found a great city, and establish a great commerce. It is simply a question of time. It is true that San Francisco occupies a more central position in regard to our territorial domain on the Pacific coast than Puget Sound. It is true that San Francisco is the centre of a much greater local population at the present time;

but as regards the great carrying trade across the continent—one of the largest elements in maintaining a Pacific railroad—I am prepared to show that Puget Sound presents the greatest advantages, and is the most central. The following table* will show the distances from Puget Sound to the head of Lake Superior, to St. Paul, and to the principal cities on the Atlantic and Gulf coasts; and also the distances of these same points from San Francisco by the central route:

	Seattle, via St. Paul.	Benicia, via St. Louis.	Differences in favor of nor'n route.
St. Paul	1,764		
Lake Superior	1,750		
Chicago	2,164	2,738 2,481 *a*	317
Portland	3,249	3,831	582
Boston	3,352	3,696	344
New York	3,126	3,546	420
Philadelphia	2,988	3,454	466
Baltimore	2,966	3,355	389
Washington	3,004	3,375	371
Charleston	3,328	3,445	117
Savannah	3,313	3,430	117
Mobile	3,030	3,147	117
New Orleans	3,115	3,232	117
Averages	3,131.1	3,453.1	

a Via Rock Island.

The distance from Benicia to St. Louis is 2,482 miles.

Thus the average distance from Seattle, via St. Paul, to the principal ports of the Atlantic and gulf, is 316 miles less than the average from Benicia via St. Louis to the same points. This saving of distance via St. Paul ranges from 117 miles, as in the case of New Orleans, to 582 miles, as in the case of Portland.

The following table* shows that the distances from San Francisco to Atlantic ports are much greater on the central than on the southern route:

* Roads either constructed or in process of construction have been used to construct these tables. See Appendix to Address on the Northwest for the distances in detail.

ATLANTIC PORTS.	*Central route.* Benecia via St. Louis.	*South'n route.* San Francisco via 32d parallel.	Differences in favor of sou'n route.
Portland	3,831	3,661	170
Boston	3,696	3,554	142
New York	3,546	3,359	187
Philadelphia	3,454	3,272	182
Baltimore	3,355	3,174	181
Washington	3,375	3,136	239
Charleston	3,445	2,974	471
Savannah	3,430	2,959	471

Thus, the distances to Atlantic ports via the southern route, are 142 to 471 miles less than by the central route. The distances on the northern route average ninety miles less than on the southern route.

If equated distances are compared, the differences in favor of the northern over the central route will be increased 137 miles, and over the southern route 310 miles. And the average distance via the northern route to Atlantic ports will be 483 miles less than by the central route, and 400 miles less than by the southern route.

These water lines of the Gulf of Mexico and the great lakes are controlling facts in the location of a continental railroad. Both the northern and southern routes combine the advantages of a much shorter railroad connection with the great ports of the Atlantic and Gulf, and of striking their respective water lines at much less distances than the central route. Thus, the great lakes are struck on the northern route at more than seven hundred miles less distance than by the central route. Thus, whether the transportation from the Pacific to Atlantic ports be entirely by rail, or whether partly by water and partly by rail, (and it will unquestionably go both ways,) or whether the overland transportation to Europe strikes these water lines at once, and thence is had on shipboard direct to Europe, or, using the rail the whole distance to some Atlantic port, the shipment is thence made to Europe, in all the cases the advantage in the way of freight is invariably against the central route.

These facts show that not only is Puget Sound nearer to Asia than is San Francisco, but that the overland distances to the principal cities on the Atlantic coast, and especially the great lakes, is much less than the distances from San Francisco to these same points either by the central or southern route. Then it is obvious

that the whole trade of Asia which passes over our continent to Europe must go by the northern route. But this is not the full extent of the superiority of the northern route. On that route the grades are easier than on any other route ; and the grade is one of the controlling elements in the cost of carrying freight. The cost of carrying freight on railroads varies from one-half a cent to two and a-half cents per ton per mile. Where a heavy business is done, and the grades are light, the cost has been as low as one-half a cent per ton per mile ; but where grades are high, the cost will very rapidly increase, even in some cases as high as $2\frac{1}{2}$ cents per ton per mile.

Nearly the whole of the country on the northern route is susceptible of continuous occupancy by our people. There is no such thing as as a desert, properly so speaking, on the entire route. There are gaps or intervals, where it is simply a grazing country. There are portions of the country occupied by mountain ranges, which would not admit of profitable cultivation ; but as a whole, the country is fitted for settlement and occupation, and must be settled and occupied at an early day. Or, to go more into details : From Breckenridge, on the Red river of the north, to the Divide of the Rocky mountains, the route passes through strictly a cultivable country, capable of continuous settlement except for about 150 miles, in three several sections of about equal lengths. On this portion you can plant agricultural settlements, at points sufficient for railroad or mail stations. From near the Divide of the Rocky mountains, the country is capable of continuous settlement to within twenty miles of the Divide of the Bitter Root mountains. The eastern half of the great plain of the Columbia, the northern and the southern portions, consist of rich river valleys and fertile table-lands. A portion of the western half will not furnish arable land for continuous settlements. Between the Columbia and the Cascade mountains, the line is flanked on the south by a large body of fertile land, and passes immediately through a fine grass country, and for at least half the distance through an excellent cultivable country. From the Cascade mountains to the Sound, the line passes through a continuously cultivable country. The whole intermediate country between the headwaters of the Missouri and the great plain of the Columbia admits of continuous settlement, except about forty miles on the highest part of the Rocky mountains, and thirty miles in the highest part of the Bitter Root mountains.

The railroad line could be laid over the great plain of the Columbia so as to pass over a continuous cultivable country to the Columbia, except for a few miles ; but to cross north of the mouth of the Snake river, which is desirable to avoid detour, it will pass

over about fifty miles of country not adapted to continuous cultivation. There are about fifty miles of uncultivable country between the main Columbia and Puget's Sound. Thus, in the whole distance from Breckenridge to Seattle, a distance of 1,544 miles, the route passes through only about 320 miles of uncultivable country. East of Breckenridge, to St. Paul and Lake Superior, the country is exceedingly rich, and inviting to the settler.

These views of the country, and which I have presented in my official reports, are being amply confirmed by experience; and the analyses of the soils procured by the recent geological examination of this country by Dr. Evans have demonstrated that it has all the elements required for crops. Indeed, generally speaking, there is an unusual quantity of fertilizing materials in the soil. On the upper waters of Snake river the formation is trap and basalt, and the soil is sterile and unfit for cultivation; but north of Snake river, in the parallels of the region whose waters flow into Clarke's Fork, there is limestone on both sides of the Rocky mountains, and westward, nearly to the great bend of the Columbia. The general character of the Flathead country, and the extraordinary change which takes place in passing from the northern route to Snake river, some two hundred miles distant, is shown in the following extracts from Lieut. Mullan's report:

"The valley and mountain slopes are well timbered with an excellent growth of pine, which is equal in every respect to the well known and noted pine of Oregon. The advantages, therefore, possessed by this section, are of great importance, and offer peculiar inducements to the settler. Its valley is not only capable of grazing immense bands of stock of every kind, but is also capable of supporting a dense population. The mountain slopes on either side of the valley and the land along the base of the mountains afford at all seasons, even during the most severe winters, grazing ground in abundance, while the mountains are covered with a beautiful growth of pine. The provisions of nature here are, therefore, on no small scale, and of no small importance; and let those who have imagined—and some have been so bold as to say it—that there exists only one immense bed of mountains from the head waters of the Missouri to the Cascade range, turn their attention to this section, and let them contemplate its advantages and resources, and ask themselves, since these things exist, can it be long before public attention shall be attracted and fastened upon this hitherto unknown and neglected region? Can it be that we should have so near our Pacific coast a section of country of hundreds of thousands of acres that will remain forever untilled, uncultivated, totally neglected? It cannot be. But let a connexion, and that the most direct, be made between the main chain of the Rocky mountains and the Pacific—and it can be done—and soon will these advantages necessarily thrust themselves upon public attention, and open to the industrious and persevering avenues to wealth and power. Again, this section connects with another of equal, if not superior, importance, that of the Cœur d'Aléne country, which again connects directly, by a beautiful section, with the country at and near Walla Walla; thus showing that from the main chain of the Rocky mountains to the mouth of the Columbia, we possess a rich, fertile, and productive area, that needs but the proper means and measures to be put forth, and manfully employed, to be turned to private and public benefit." * * * * * * * * * *

"Looking back upon our route, we saw we had followed Bitter Root river to its head, which we found from its mouth to be ninety five miles long, flowing through a wide and beautiful valley, whose soil is fertile and productive, well timbered with the pine and cotton-wood, but whose chief characteristic and capability is that of grazing large herds of cattle, and affording excellent mill sites along the numerous streams flowing from the mountains. The country thence is watered by tributaries to the Missouri and its forks, to the range of mountains separating these waters from those of the Snake river, or the south branch of Lewis' fork of the Columbia, and is also fertile, but its characteristic feature is the great scarcity of timber for any purpose, the willow and wild sage being used for fuel along the whole route. The geological formation of this section belongs to the tertiary period. The capability of this broad area, however, for grazing, is excellent. It is a great resort at present for all Indians in the mountains, the mountains and valleys affording a great abundance of game, consisting of elk, bear, deer, and antelope, while the numerous rivers and streams abound in fish and beaver. The latter are still caught in large numbers on the head waters and tributaries of the Missouri, but are not so anxiously sought after as years back, owing to the great depreciation of value in the market east. The whole country is formed of a series of beds of mountainous ranges or ridges, with their intervening valleys, all of which are well defined and marked, the decomposition and washings of the rocks of the mountains giving character to the soil of the valleys, which may be termed, as a general thing, fertile. The geological formations along the Jefferson fork and its principal tributaries are limestone and conglomerate rock. From the range called the Snake River divide, the whole character of the country is completely changed. Here the geological formation is basaltic and volcanic principally. None of the numerous streams and rivulets flowing from the mountains along the route we traveled emptied into the Snake river, but either sunk into the ground, or formed small lakes in the broad valley of Snake river. The ground in most places is formed principally of sand; and where large beds of basalt are not found, the ground is of a dry, absorbing nature, through which the water sinks, at times bursting out again. It was somewhat singular, that for sixty miles above Fort Hall, along the main stream of Snake river, we did not cross but one tributary, and that coming in from the south, while none came in from the north; all of the streams, as before mentioned, either forming lakes or sinking into the ground. This section is also noted for the great scarcity of timber, and the immense plains of wild sage; which is so abundant, that it merits the name of the sage desert of the mountains. It extends for many miles in length and breadth, forming an immense ocean of prairie whose sameness is only broken by the 'Three Buttes' of the valley, which rise like islands in the sea in this broad and barren area. Its whole character might be included in the word sterility."

Experience, moreover, has shown that there is moisture enough for profitable tillage. The crops that have been raised about the Dalles, at the Walla Walla, in the Nez Perces country, on the Spokane, at Colville, in the Bitter Root valley, on the Jocko, on Sun river, at Fort Benton, and at Fort Union, show that there is ample rain for moisture to insure a certain crop. I will refer gentlemen interested in this matter to my report for a minute description of this country in this respect, and especially to the forthcoming report of Dr. Evans, which will be found to be exceedingly interesting and instructive: but, before leaving this subject, I desire to say that Northern Nebraska is fully equal, and Washington Territory is much superior, to certain provinces in Southern Russia, with which they may be com-

pared. These provinces, or governments, are Bessarabia, Kherson, Ekatherinoslaw, Taurido, (Crimea,) Stavropol, (Caucasia,) Astrakhan, and the country of the Don Cossacks, and they extend from the mouth of the Danube along the shores of the Black sea, the sea of Asov, and across the lower parts of the Don, the Volga, and the Ural into the plains of Central Asia. These all lie between latitude 49° and the Black sea, excepting Stavropol and Astrakhan, which extend south between it and the Caspian sea, latitude, 44°.

In 1851, including the government of Koursk, which lies north of latitude 49°, the population of this region, containing an area of 262,000 square miles, ranged from 98 souls to the square mile as in the government of Koursk, through the intermediate numbers of 4.98, (Bessarabia,) 38.8, (Ekatherinoslaw,) 32, (Kherson,) 26.6, (Taurido,) 17.6, (Stavropol,) 17.6, (Don Cossacks,) down to 8.8 in the government of Astrakhan. Five of these provinces produce more grain than they consume—the export of wheat being 18,000,000 bushels,—two sufficient for home consumption, and Astrakhan only imports it. The average return for the same province is six times the amount of seed sown, while for the whole empire it is only four.

In 1847, over two million bushels of potatoes were raised in the five provinces bordering on the Black sea. Beet root sugar is an important product. Large quantities of wine are manufactured, and large quantities of fruit are produced. Tobacco is grown to a considerable extent. In this region are over two millions of horses, and nearly five millions of cattle and twelve millions of sheep.

These provinces are in fact the most productive portion of Russia in Europe. Yet Nebraska will compare favorably with them in temperature, amount of moisture precipitated, the constituents of the soil, and general geographical position. Both regions are mainly regions of prairie, and large portions of each are destitute of wood. The comparison, however, in all these respects is in favor of Nebraska, and yet the population of the province Koursh is much denser than that of any of our best agricultural States of the Mississippi valley, and the average of the six provinces exceed the average of the Mississippi river States, and the population is rapidly increasing by immigration from the more northern regions of Russia.

But the comparison between southern Russia and Washington Territory is greatly in favor of the latter. The climate is much milder than in Southern Russia, and more moisture is deposited. Indeed, the climate of Washington is superior to that of any part of western New York, Michigan, Wisconsin, or Minnesota. The greater part of eastern and northern central Washington is

wooded, the forest growth being large, with frequently a luxurious undergrowth.

I beg leave to quote the following from Lewis and Clarke's narrative, as descriptive of the country lying under and to the westward of the Bitter-Root Mountains. I have passed over this country in several directions, and know their description to be accurate:

When encamped in the Kookooskia valley on May 17, 1805, they say:

"The country along the Rocky mountains for several hundred miles in length, and about fifty wide, is a high level plain, in all its parts extremely fertile, and in many places covered with a growth of tall, long-leaved pine. This plain is chiefly interrupted near the streams of water, where the hills are steep and lofty, but the soil is good, being unincumbered by much stone, and possesses more timber than the level country. Under shelter of these hills the bottom lands skirt the margin of the rivers, and though narrow and confined, are still fertile and rarely inundated. Nearly the whole of this wide-spread tract is covered with a profusion of grass and plants which are at this time as high as the knees. Among these are a variety of esculent roots, acquired without much difficulty, and yielding not only a nutritious, but a very agreeable food. The air is pure and dry, the climate quite as mild if not milder than the same parallel of latitude in the Atlantic States, and must be equally healthy, for all the disorders which we have witnessed may fairly be imputed more to the nature of the diet than to any intemperance of climate."

Proceeding eastward they reached one of the Kamas prairies on the Kookooskia, within the spurs of the Bitter Root mountains. There they encamped in a point of woods bordering the extensive level and beautiful prairie; and as the kamas was in blossom, it being the 10th of June, the surface presented a perfect resemblance to a lake of clear blue water. The country, though hilly around them, was generally free from stone, extremely fertile, and well supplied with timber, consisting of several species of fir, pine, and birch.

Another advantage of the northern route is, that it can be worked in a greater number of sections than any other route. In my railroad report of 1854, I gave a scheme, and presented a programme for building this road, which proposed making use of the waters of the Columbia and Missouri, for transporting the workmen, and tools, and materials of all kinds, and organizing the work in corresponding divisions. One would be from Puget Sound and from Vancouver to the point where the railroad line crosses the Columbia, another from this point to the head of navigation at Fort Benton, a third from Fort Benton to Fort Union, another to St. Paul, and the western end of Lake Superior.

Thus the route can be thrown into four divisions, on each of which the work can be commenced at both ends, so that eight sections may be worked at a time, affording extraordinary facili-

ties to hasten the construction of the road. The most difficult of these divisions, the one between the Columbia and Missouri, could be attacked almost as soon, within two or three months, as those lying on the Pacific or great lakes. It is not necessary to wait till the tunneling is done on the route, as, to establish a thorough communication for the nonce, the system of zigzags, by which the Alleghanies are scaled in Pennsylvania, can be adopted.

It is objected to the northern route that it involves excessive tunneling. This is not necessarily the case. The northern road can be located with little or no tunneling, but at a very great increase of distance.

Lieut. Mullan reports that, by his wagon pass (Mullan's or Little Blackfeet Pass) a railroad can be laid across the Rocky mountains with only a cut one hundred feet deep through the Divide, which is but half a measured mile from base to base, and that no excessive grades will be required on the eastern approach. The descent down the valley of the Little Blackfeet and Hell-Gate is exceedingly favorable. Thus, a line can be laid down from the Mississippi to Olympia, on Puget Sound, with but short and few tunnels, but which will be two hundred and seventy-six miles longer than the route by Cadotte's, the Cœur d'Aléne or Stevens' and the Snoqualmoo Passes to Seattle. We cross the Rocky mountains by the northern Little Blackfoot or Mullan's Pass, then follow down the Little Blackfoot and Hell-Gate valleys, cross over the Jocko divide to Hell-Gate, follow down Clark's fork to below the Pend d'Oreille lake, cross over to the Spokane, and, finally, after passing over the great plain of the Columbia, follow down the Columbia valley to near the mouth of the Cowlitz, and reach the Sound by the easy and practicable line of the Cowlitz and intermediate country. If, instead of a cut of half a mile through Mullan's Pass, this distance should have to be tunneled, the only remaining tunnels will be at the Cabinet, three hundred yards in length, fifty per cent. in basaltic trap, and Cape Horn, seven hundred feet in length. By this route the distance to Olympia from St. Paul will be two thousand and forty miles, against one thousand seven hundred and sixty-four miles, the distance to Seattle by the route of the tunnels.

From the great plain of the Columbia, the distance, via the Snoqualmoo Pass to Seattle, is 155 miles less than by the Columbia and Cowlitz rivers.

In both my preliminary report of 1854 and my final report of 1859, I recommended that from some point in the general vicinity of the mouth of Snake river there should be two branches—one to Seattle, on Puget Sound, across the Snoqualmoo Pass, and the other down the Columbia river to Vancouver. In

justice to myself, I will state that, in my reports to the War Department, at Fort Benton, in September, 1853, I took it for granted that the route down the Columbia river was practicable, and that after making a personal examination of it myself, I actually reported it as practicable on the 19th of December, 1853. I considered it probably practicable before I left the city of Washington to commence the survey of the northern route.

To make the route a cheap and practicable freight route, it is essential to diminish both the length of the line and the gradients as much as possible. To effect this, a very considerable increase of expense might be incurred, provided the interest on the increased cost did not exceed the saving in the expense of running the line.

For this reason especially, I have urged a direct connexion with Puget Sound via the Snoqualmoo Pass; for the superiority of the route within our own borders over that in the British possessions may be lost if Puget Sound be reached by the circuitous route of the Columbia and Cowlitz rivers.

This plan will accommodate both Oregon and Washington, and will insure an extension of the Columbia river branch via the Willamette and Sacramento valleys to San Francisco. The connexion, moreover, with the several railroad systems of the States, not included in the St. Lawence Basin, and the great navigable rivers of the Mississippi valley, will be as short as a connection by the Snake river route. For the distance from Seattle and Vancouver to Chicago by the northern route, is 2,154 and 2,147 miles against 2,364 miles, the distance from Vancouver to Chicago by the South Pass and Rock Island, and against 2,182 miles, the distance from Vancouver to Rock Island. But if the equated distances be compared, the result will be still more in favor of the northern route. A ton of freight can be delivered at Chicago by the northern route for a less sum than it can be delivered at Rock Island, on the Mississippi river, by the South Pass route. Indeed, a comparison of the equated distances, the practical comparison invariably instituted by practical men, shows that a ton of freight can be taken either from Seattle or Vancouver, over the northern route to St. Paul, be placed on a steamer and delivered not only at Rock Island or St. Louis at less cost than it can be delivered at either of these points by the route of the South Pass, but it can descend the Mississippi and be delivered at any point thence to New Orleans, at less cost than a ton of freight from San Francisco, either by the central or southern route.

It has also been objected to the northern route that snow and the excessive cold weather would be an obstruction, both to the building and the running of the road. The following brief summary of information with regard to this matter is presented to show conclusively that these objections are utterly untenable.

The passes of the Rocky mountains, Hell Gate, Northern Little Blackfoot, and Cadot's Pass were crossed by parties employed in the exploration of the northern route in the months of December, January, February and March, in the years 1853–'4, and in no one of these passes did they find more than fifteen inches of snow. In the winter of 1854–'5, the Flathead Indians passed through these passes in January, February, and March; whole tribes, with their women and children, and their pack animals laden down with furs and meat. Victor, head chief of the Flathead nation, states that since the memory of the Indian, they had passed these mountains year after year through the winter months. That same winter, the party that crossed the Rocky mountains in January, went down Clark's Fork in February; they went on horseback, the sole trouble being that there were some places where the snow was deep enough to cover up the grass; but in these cases it was in the wooded portions, and $2\frac{1}{2}$ feet was the greatest depth.

When they left the wooded region where it was $2\frac{1}{2}$ feet deep, and came to the open prairie, the snow had entirely disappeared. In the crossing of the Cascade mountains to Puget sound, made by Mr. Tinkham, in January, 1854, the snow was but six feet for a short distance. At Fort Benton and Fort Campbell, on the Upper Missouri, ever since they were established some twenty-five years since, the fur companies have taken their goods to their winter trading posts, on the Milk and Marias rivers, in wagons, there not being snow enough for sleds.

It is obvious there can be no serious difficulty on the northern route from snow. Will there be difficulty from excessive cold weather?

There are now great lines of railroad in operation over tracts of country as cold, and even colder, than the route from Fort Benton to the shores of the Pacific. The mean winter temperature at Fort Benton, in 1853–'54, was 25°.38 above zero. The average at Montreal, on the Grand Trunk railroad, for the same year, was 13°.22, and for a mean of ten years 17°.80, above zero. At Quebec, it was, in 1853–'54, 11°.03 above zero, and for a mean of ten years 13°.30 above zero. On the great Russian railroad, from St. Petersburg to Moscow, the comparison is very similar. The mean winter temperature for a series of twenty-one years, at Moscow, is 15°.20, and at St. Petersburg, for a mean of twenty-five years, 18°.10 above zero.

At Fort Snelling, on the great lines through Minnesota from St. Paul to Pembina, and from St. Paul to Breckenridge, now actually in process of construction, the mean winter temperature of 1853–'54 was 11°.64, and the mean of thirty-five winters 16°.10 above zero. Thus in the winter of 1853–'54, an unu-

sually cold winter, Fort Benton was 15° warmer than Montreal, 14° warmer than Quebec, 11° warmer than Fort Snelling, 10° warmer than Moscow, and 7° warmer than St. Petersburg. Looking to the Bitter Root valley, its average temperature in the winter of 1853–'54 was 24°.90, and in 1854-'55, 30°.30 above zero, making it for the two winters respectively 10° and 15° warmer than at Moscow, and 7° and 12° warmer than at St. Petersburg. In 1853–'54 it was 12° warmer than at Montreal, and 14° warmer than at Quebec. The greatest cold in the winter of 1853–'54 was 29° below zero at Cantonment Stevens. At Fort Snelling it was 36°, at Montreal 34°, and at Quebec 29° below zero, from which it is seen that on this route, the greatest cold is not equal to the greatest cold on the route of the Grand Trunk railroad of Canada. The same fact is unquestionably true of the great artery of Russia from Moscow to St. Petersburg. The average temperature was below zero twelve days at Fort Benton, ten days at Cantonment Stevens, eighteen days at Fort Snelling, eighteen days at Montreal, and twenty-three days at Quebec. Thus there were more cold days on the line of the Great Trunk railroad, and of the roads in Minnesota, than on this northern route. Moreover, at Fort Benton the thermometer was forty-three out of ninety days, and at Cantonment Stevens thirty-two out of ninety days above the freezing point, against only six days out of ninety at Fort Snelling, five days out of ninety at Quebec, eight days out of ninety at Montreal, and eighteen days out of ninety at Albany—all in the winter of 1853–'54.

Indeed, I doubt not that the blinding sand storms on the southern route would be a much greater obstacle to the running of the cars than the snow storms or the cold on the northern route. Now, the British government are looking to an overland communication with the Pacific. They have redeemed British Columbia from the vassalage of the Hudson's Bay rule, and are about redeeming the Saskatchawan country. All our information goes to establish the fact that there is a very large scope of arable country through the Saskatchawan region, and we know that the development of the mineral wealth of British Columbia will also tend to develop its agricultural resources. The British government have had surveys made of the whole country, and British capitalists—and especially those of the Canadas—are filled with the importance of establishing their overland communication, and doing it by railroad; and yet the British government is not in the condition to start the enterprise within their borders that we are to do it within ours. We are in advance of them in the way of communications. We have run steamers both up the Missouri to Fort Benton, and up the Co-

lumbia and Snake rivers to the mouth of the Palouse—the distance from point to point being less than five hundred miles on the railroad line. The wagon road in charge of Lieut. Mullan, now in process of construction between these two points, will be completed during the present season. Moreover, the more detailed surveys, and especially the line of spirit levels run by Lieut. Mullan over the Cœur d'Alene or Stevens' Pass, has verified the information previously gained and reported upon by me as to its entire practicability. Our railroads are stretching through Minnesota; whereas in the Canadas their railroads have only reached Lake Huron and the St. Clair river. They are now connecting these with our roads running through Michigan, Illinois, and Wisconsin. They cannot go north of Lake Superior; the country has been examined, and has been found to be impracticable. Their only alternative is to make use of our roads until they reach Pembina on the frontier, between the Red river settlement and Minnesota, and then connect them with a system of their own. Will they take this course, if our own government, taking time by the forelock, shall determine to give the necessary aid to a road crossing the 47th parallel, and reaching the waters of the Pacific at Puget sound? On the contrary, will they not help us? Will we not have the whole force of the railroad capital and enterprise of the Canadas, backed up by the British government, to assist us in establishing this communication? Will not this road accommodate British Columbia? By branches from the great plain of the Columbia, the country can be reached on Thompson's and Frazer's river. Our route is more feasible than theirs; the distance is shorter, the mountain passes more open, the agricultural value of the country (at least west of the Rocky mountains) very much superior; and this is known to be the precise feeling, I am credibly informed, of all the great railroad men of the Canadas, to whose enterprise and forecast we owe the Grand Trunk road. They are ready, if our people start the movement, to join hands with us; and thus this route, so far from being an extreme northern route, is the central route of a vast scope of country having natural outlets both on the Pacific and on the Atlantic, and is the central route of a vast system of railroads having invested in them more than one-half of the railroad capital of this continent. Is it wise—is it just—is it having a proper regard for the future, to ignore this northern route, and to throw into British hands, and to yield to British enterprise the great commercial development of the northwest?

But let us take a somewhat larger view of the question of national defence than the view already presented. Do we not require, as an element of national defence, that the development

of the northwest should be our development—that the rising city of the northwest coast should be in our borders, south of the 49th parallel? Do we not want to hold in our hands the key of the trade of Asia? Is it not our interest to develope the fisheries and the lumber business, the coal, the mines, and the commerce of that northwest? Do we not need the nursery of seamen growing out of such development? Will we not thus get the seeds of a great navy upon that coast? Will we not have the means of building vessels of the largest class, to make that coast self-sustaining in all the means and facilities of a commercial and naval marine? These are the interests involved in the great overland communication by the northern route; and this is, emphatically, a question of the national defence, of commercial superiority, of America having her proper position among the families of the earth. Or, shall we fall back upon the old selfish apothegm, "Posterity will do nothing for us, and therefore we will do nothing for posterity?" I therefore hold it to be the duty of the people of Oregon and Washington to insist that their commercial advantages and position shall be respected by the Congress of the United States, in any system which it may adopt of an overland communication with the Pacific. I do protest against Congress, when we ask for bread, giving us a stone. I protest against the injustice of our being called upon utterly to abandon our great route,—utterly to abandon all idea of the commercial supremacy which our country owes it to itself to establish upon this northwest coast, and to accept instead of this, the boon of a branch communication. It is my deliberate judgment that it will be vastly more difficult for us to establish the branch communication provided for in certain bills, than to establish this great overland communication connecting us directly with the Mississippi river, with the great lakes, and with the vast rail road system of the St. Lawrence basin. What shall be the nature of the branch?

Senator Wigfall's bill proposes a southern and a central route, with a branch to the Columbia river or Puget Sound, from the nearest practicable point on that route. Now it is altogether probable that the central route will go through the Pike's Peak country. The people of Salt Lake and Pike's Peak urge it; the whole population of that portion of the interior, and the people of Nevada will be satisfied with it. Its distance will be two hundred miles shorter than by the South Pass. If there be no engineering difficulties in the way, it must go through Pikes' Peak; and our branch will be a branch, not from the south pass, but via the Sacramento and the Willamette rivers; but in either event it will be purely a local affair. There will be no great interest to assist us. We will have to build it with our own means, and

with little or no assistance from others. The whole energies of the people of California will be strained to establish their own communication. But the northern route will be a national route. We will have not merely our own feeble force, but in addition, that of the vast communities of our northern states and of the Canadas, and of the many hundreds of millions of railroad capital there invested. We will have aid from Europe. There will be the strongest influence to push the road through; and if the object be to get a branch connecting with San Francisco, we will find the key to its solution in the northern route.

ESTIMATE OF COST.

The estimate of cost of road is not given for the distance east from Breckinridge, on the western boundary of Minnesota, to which point the Minnesota and Pacific Railroad Company have located a road under the recent grants of Congress. Their route crosses the Mississippi near the falls of St. Anthony, does not deflect more than 27 miles at any point from an air line, and saves 20 miles in distance over my surveyed routes. Moreover, with means at hand, it can be built for less than my estimate of $25,000 per mile, viz: for about $21,000 or $22,000 per mile.

Estimate of cost of road from Breckenridge to Seattle, via Fort Union, Fort Benton, Cadotte's Pass, Cœur d'Aléne or Stevens' Pass, Cœur d'Alène Mission, north of the Cœur dAléne Lake, and the Snoqualmoo Pass, using the long tunnel. Entire distance, 1,544.51 *miles.*

	Miles.	Per mile.	
Breckenridge to crossing of Milk river.....	712	$40,000	$28,480,000
Crossing of Milk river to point of departure from Box Elder.....	30	40,000	1,200,000
Thence to Fort Benton	51½	80,000	4,120,000
Fort Benton to entrance to tunnel.	102.2	70,000	7,154,000
Short tunnel, 5,640 feet, at $120 per foot			316,800
Tunnel, 22,123 feet, at $130 per foot.....	4.190		2,875,990
Thence to crossing of Hell-Gate.....	91.86	60,000	5,511,600
Thence to crossing of Bitter Root.	65	50,000	3,250,000
Thence to entrance into tunnel.....	35	60,000	2,100,000
Tunnel, 1.6 miles, at $130 per foot.....	1.6		1,098,240
West end of tunnel to Cœur dAlene Mis'n	48½	60,000	2,910,000
Thence to point beyond cross'g of Spokane	70½	60,000	4,230,000
Thence to fork of line to Vancouver.....	91.25	45,000	4,106,250
Thence to crossing of Columbia.....	20	45,000	900,000
Thence to entrance to long tunnel	138.25	50,000	6,912,500
Long tunnel, 11,840 yards, or 6¾ miles, about $140 per ft. or $420 per yard.....	6.75		5,000,000
Thence to Seattle.....	75	60,000	4,500,000
Total length in miles.....	1,543.60		$84,665,380
Steamers on the Missouri and Columbia.....			1,500,000

Reservoirs, aqueducts, &c		2,000,000
Depots and permanent fixtures		1,750,000
Engineering and contingencies		5,000,000
		$94,915,380
The cost of the short tunnel will be, 4,000 yards, or 2.247 miles, at $390 per yard	$1,560,000	
Add 4½ miles of road and difficult work, at $100,000	450,000	
	$2,010,000	
Total cost of short tunnel		2,990,000
		$91,925,380

Estimate of cost of road from Breckinridge to Vancouver, via Fort Union, Fort Benton, Cadotte's Pass, Cœur d'Aléne or Stevens' Pass, Cœur d'Aléne Mission, north of the Cœur d'Aléne Lake, and the Dalles. Entire distance, 1,526.60 *miles.*

	Miles.	Per mile.	
From Breckinridge to fork of line to Vancouver, as by A	1,303.60	.....	$67,352,880
Thence to crossing of Columbia	20	$45,000	900 000
Thence to Dalles	113	60,000	6,780,000
Thence to Vancouver	90	100,000	9,000,000
	1,526.60		$84,032,880
Steamers on the Missouri and Columbia			1,500,000
Reservoirs, aqueducts, &c			2,000,000
Depots and permanent fixtures			1,750,000
Engineering and contingencies			5,000,000
			$94,282,880

Estimate of cost of branch road from Vancouver to Seattle.

From Vancouver to Seattle, 172 miles, at $50,000 per mile	$8,600,000
Depots	150,000
Total cost of road	$8,750,000

Recapitulation of cost of road from Breckinridge to Seattle, with a branch road to Vancouver, and a branch road from Vancouver to Seattle.

	Miles.	
From Breckinridge to Seattle	1.543.60	$94,915,380
Branch to Vancouver	223.00	16,930,000
Branch from Vancouver to Seattle	172.00	8,750,000
		$120,595,380

In this paper I have preferred not to encumber it with tables showing in detail the advantages as to distance of the northern route over any route in the British possessions, and that by the South Pass, and the greater nearness of its termini both to Asiatic and European ports. These tables are given in my address on the northwest which accompanies this communication, and also tables showing in much detail the significant facts of the several routes, as distances, both lineal and equated, summit levels elevations above the sea, sum of ascents and descents, cost, &c. It will be seen, that the sum of ascents and descents is much the smallest on the northern route.

It must constantly be borne in mind that an enterprise of the magnitude and character of the Pacific railroad, cannot be really taken in hand and the work of construction commenced, except upon the most accurate and minute information. The surveys thus far have been for the most part reconnaissances. It is not certain that on any route the best passes have been ascertained. This fact appears very clearly in the proceedings of the railroad convention at San Francisco as regards the passes of the Sierra Nevada which come into competition on the central route. So on the northern route. The explorations of the mountain regions would have to be extended and comparative reconnaissances made of the several passes to ascertain the most favorable one—which done, the intermediate connections could be established and the work of location commenced. In my judgment, full two years would be required to execute properly this work of reconnaissance and location, and to attain that exact information required to make a detailed estimate of the cost. The engineer must know the cubic yards of excavation in rock and earth, the cubic yards of earth embankment, of masonry of the several kinds, of culverts, bridges, aqueducts, clearing through timber, drainage, the precise localities from which materials can be procured to the best advantage, the cost of delivery of the same, &c., before he is able to arrive at just conclusions as to the probable cost of the road.

In this connexion it may not be improper to observe that the Pacific railroad is being worked out by the agencies now in operation. Local roads are advancing, and diminishing the distance to be overcome. With protection to our citizens from Indian disturbances, with opening communications, and the overland mail, every day is rapidly preparing facilities to undertake, and the business to render remunerative, the Pacific railroad. If two years could now be devoted to a thorough examination of the several routes to locate roads, and ascertain the actual cost, it would afford Congress and the people of the country information on which intelligent action could be had.

In conclusion, I will express the hope that the convention may be well attended, and that its proceedings may show that the people of Oregon and Washington are not unmindful of their true interests and the exigencies of the country, in their consideration of the greatest practical enterprise of the age, the Pacific Railroad.

Very respectfully,

ISAAC I. STEVENS.